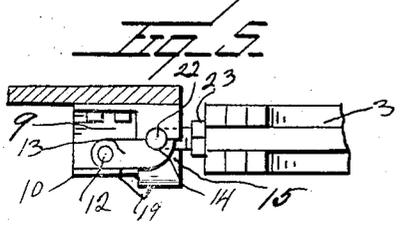
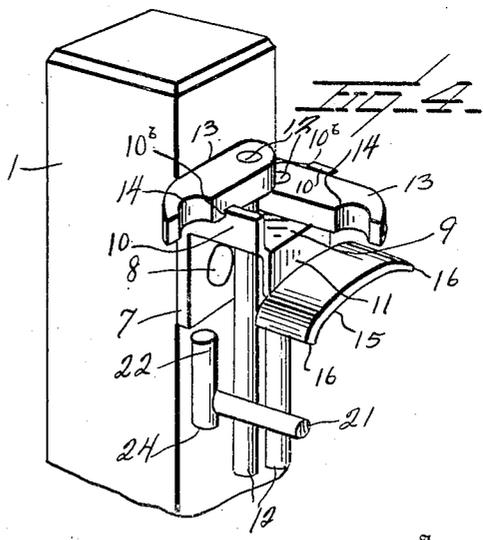
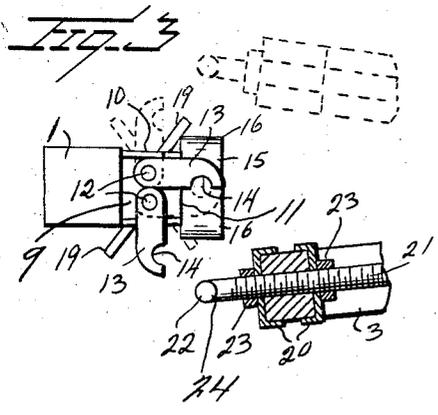
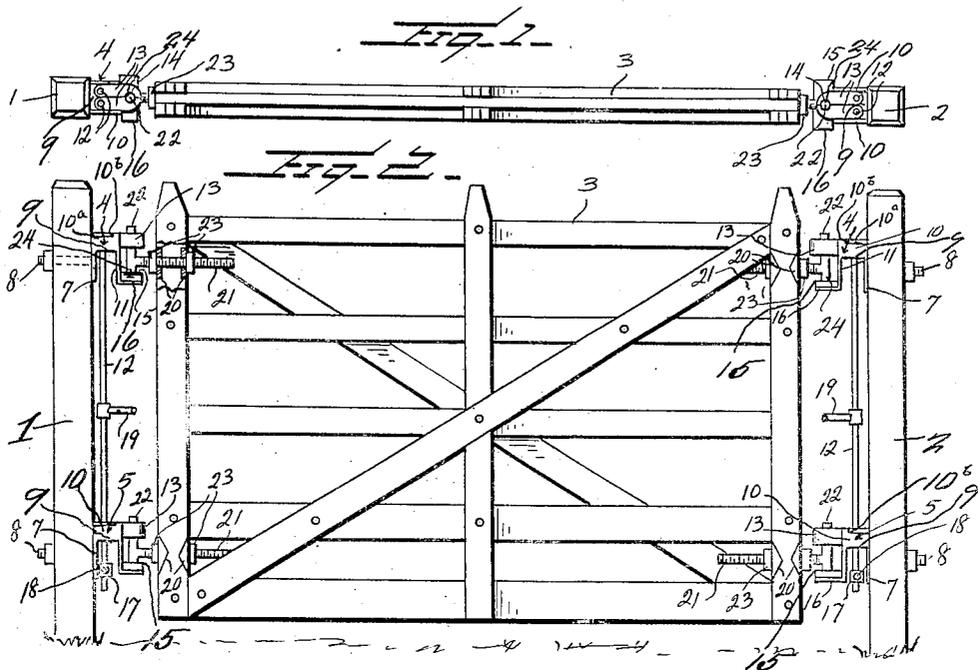


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 GATE AND HINGE LATCH THEREFOR.
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To all whom it may concern:

Be it known that I, CYRUS REED, a citizen of the United States, residing at Lebanon, in the county of Lebanon and State of Pennsylvania, have invented certain new and useful Improvements in Gate and Hinge-Latches Therefor, of which the following is a specification, reference being had to the accompanying drawings.

The present invention has for its purpose to provide a gate capable of swinging open in either direction and from either post, and also a hinge latch, arranged and constructed, to permit the gate to function as heretofore stated.

A gate of this kind may be used on garden or house fences, or as a closure on roadways, or as a closure between one field and another field, and particularly in connection with stock yards, enabling cattle and the like to be easily and very quickly handled, namely in transferring the cattle from one inclosure to another. For instance an inclosure may be overcrowded with cattle and it has been found that where the gate swings inwardly of the inclosure, the cattle will prevent the gate from being opened to its fullest extent. Therefore by the provision of a gate of the present character, wherein it is capable of opening in a direction from the inclosure, the transference of the cattle from one inclosure to another will be greatly facilitated, and particularly without injury to the gate. These circumstances will exist regardless as to which inclosure is overcrowded.

As a further purpose the invention aims to provide a hinge latch, wherein the gate is held firm at all times, and wherein should either post become out of plumb, namely in a direction with the fence, means is afforded for adjusting the gate relatively to the posts, so that either hinge latch will properly operate.

Furthermore the present form of hinge latch holds the gate plumb, thereby preventing the same from warping or twisting.

As will be hereinafter set forth the hinge latch may be also used on barns and the like, and in this connection it is to be understood that the gate is not only capable of swinging in one direction, namely outwardly, but capable of being swung on either side of the door opening.

While the design and construction at present illustrated and set forth is deemed pref-

erable, it is obvious that as a result of a reduction of the invention to a more practical form for commercial purposes, the invention may be susceptible of changes, and the right to these changes is claimed, provided they are comprehended within the scope of what is claimed.

The invention comprises further features and combination of parts, as will be hereinafter set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a plan view of a gate showing the improved hinge latch as applied.

Fig. 2 is a view in side elevation of the gate showing the same constructed in accordance with the invention.

Fig. 3 is a plan view of one of the posts showing the hinge latch applied, and showing the gate in an open position in full lines on one side of the post, and in an open position in dotted lines on the other side of the post, showing the end bars of the gate and plates 20 in section.

Fig. 4 is a detail perspective view of one of the gate posts, showing the hinge latch as applied.

Fig. 5 is a detail plan view of the hinge latch mechanism, as applied to one side of the barn door opening.

Referring more especially to the drawings, 1 and 2 designate the gate posts, and upon either one of which, as will be hereinafter pointed out, the gate 3 may swing.

The hinge latches on both posts are identical in construction. Secured to the upper and lower portions of the inner face of each post are brackets 4 and 5. Each bracket is of angular contour and has its depending portion 7 secured to the posts by a bolt 8. The horizontal portion 9 of each bracket is provided with upstanding side flanges 10, and depending from the end of the horizontal portion of each bracket is an angular support 11.

Mounted for rocking and vertical movement in the horizontal portions of the brackets of each post are vertical rods 12. The upper and lower ends of these rods are provided with laterally extending hinge latch arms 13, the adjacent faces of which near the ends of the arms are provided with semi-circular recesses 14, which, when the arms are brought together, form bearings for a combination hinge and latch member. When the arms 13 of the rods 12 are in en-

gagement, they are disposed between the flanges of the horizontal portions of the brackets, thereby holding the arms 13 firm, enabling the hinge members to rock therebetween. The depending angular flanges 11 have their horizontal portions 15 curved transversely, and the ends of these horizontal portions 15 have downwardly extending lips 16, thereby permitting the hinge and latch members of the gate 3 to cam upon the horizontal portions 15 of the flanges 11, when the gate is swung to a closed position. The lower portions of the rods 12 have collars 17 secured thereon by means of a set screw 18. These collars 17 are disposed a distance below the horizontal portions of the lower brackets a little more than the height of the side flanges of the brackets, so as to permit the rods 12 to be moved longitudinally in their bearings, to enable the arms 13 to be disposed above the flanges, so as to allow them to swing laterally, when the rods 12 are rocked. The rods 12 are provided with handles 19, for moving the rods longitudinally, as well as rocking them.

Partly straddling the upper and lower portions of the end bars of the gate are U-shaped plates 20, and extending through these plates and between the end bars are the threaded shanks 21 of the combination latch and hinge members 22. The threaded shanks of the hinge members 22 have nuts 23, which engage the U-shaped plates 20, thereby not only holding the plates in position, but also holding the hinge members in place. It is obvious that the U-shaped plates 20 may be adjusted vertically relatively to the end bars of the gate, so as to adjust the hinge members of the gate relatively to the arms of the rocking rods of the combination hinge latch and hinge. Also the hinge members may be adjusted through the U-shaped plates, relatively to the hinge latch, so as to compensate for sagging of either post, or to compensate for the posts and the gate getting out of plumb.

The hinge members 22 have heads 24, which, when the gate is closed rest upon the horizontal portions 15 of the angle flanges 11, and are engaged in the bearings formed by the recesses 14, so that when the gate is opened in either direction and fulcrumed on either post, the heads 24 will journal on the horizontal portions 15 of the angle flanges 11, and in the bearings formed by the recesses 14.

The posts may be constructed of any suitable material, either wood, metal, or concrete. The gate 3 may be constructed of wood, or any other suitable material, either steel or iron, or metal tubing, preferably of aluminum. In constructing the gate of tubing, the margin of the gate would be made of aluminum, with suitable net work applied to the marginal frame.

It will be noted that either one of the rods 12 may be shifted vertically and axially, until it is limited by its collar 17 at its lower portion contacting with the underface of the lower casting, then the rod may be rocked in its bearings. When so moved, the upper and lower arms of the rod will move or swing laterally over the edges of the flanges of the brackets, in which case the hinge member of the gate may be moved out of engagement with the recesses 14 of the remaining arms 13 of the opposite rod, allowing the gate to be swung open. It is obvious from the foregoing, that the gate may be opened in either direction, and swung upon either post. When the gate is swung in either direction and on either post, the hinge latch will act as the hinge, for hingedly supporting the gate, while the other hinge latch constitutes the latch of the gate. When the gate is opened in the reverse direction and swung upon the opposite post, the circumstances as above described are reversed, namely, the hinge latch which acted as a latch device, will act as a hinge, and the hinge latch which acted as the hinge, will act as the latch, and vice versa.

If either post sagged toward the gate, the hinge members 22 may be adjusted through the U-shaped plates 20, in order to draw the gate into proper position.

It is obvious that the hinge latches may be used upon barns, and in this case, a rod of each pair of rods may be eliminated, and the castings would then be fastened on the outside of the barn, as shown in Fig. 4, allowing the gate to be swung open in an outward direction only. The members which are carried by the posts are described as being cast, though it is obvious that they may be otherwise constructed, for instance by a drop forge method, or in any other suitable manner. In fact most of the parts of the hinge latch may be made by casting or drop forge method, excepting the rocking rods and the bolts.

The flanges 10 of the horizontal portion 9 of each casting have their upper edges inclined as at 10^a, there being shoulders 10^b, which together with the inclined portions are engaged by the arms 13 of the rods 12, to hold the arms from accidental moving to their normal positions. However, when it is desired to return the arms to their normal positions, the rods may be raised slightly and then rotated, allowing the arms to be positioned between the flanges.

The invention having been set forth, what is claimed as being useful is:—

1. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower hinge latches mounted on said support, each hinge latch comprising a hinge member supporting means, hinge member retaining arms mounted on

the supporting means to retain the hinge member detachably and hingedly in place.

2. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower hinge latches mounted on the support, each hinge latch comprising a hinge member supporting means, hinge member retaining arms mounted on the supporting means to retain the hinge member detachably and hingedly in place, means connecting the arms of the upper hinge latch with the arms of the lower hinge latch, whereby the arms of the upper and lower hinge latch may be operated together.

3. In a hinge construction, the combination with a support, of a closure and hinge members carried by the closure, upper and lower hinge latches mounted on the support, each hinge latch comprising a hinge member supporting means, hinge member retaining arms mounted on the supporting means to retain the hinge member detachably and hingedly in place, means connecting the arms of the upper hinge latch with the arms of the lower hinge latch, whereby the arms of the upper and lower hinge latches may be operated together, and means for supporting the hinge members in position and in engagement with the hinge member retaining arms.

4. In a hinge construction, the combination with a closure, of a support therefor, hinge members carried by the closure, upper and lower hinge latches mounted on the support, each hinge latch comprising a hinge member supporting means, hinge member retaining arms mounted on the supporting means to retain the hinge member detachably and hingedly in place, means connecting the arms of the upper hinge latch with the arms of the lower hinge latch, whereby the arms of the upper and lower hinge latches may be operated simultaneously, means for supporting the hinge members in position, and in engagement with the hinge member retaining arms, and means for adjusting the hinge members relatively to the closure, thereby compensating for the sagging of the closure or its support.

5. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower latches, upper and lower brackets carried by the support and having means on which the latch members are disengageably supported, latch retaining arms pivotally supported on the brackets with which the hinge members fulcrumly engage, means operatively connecting the arms of the upper and lower brackets for actuating said arms simultaneously to release the latches.

6. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower latches, upper and lower brackets carried by the support and

having means on which the latches are disengageably supported, latch retaining arms pivotally supported on the brackets with which the hinge members fulcrumly engage, means operatively connecting the arms of the upper and lower brackets for actuating said arms simultaneously to release the latches, and means carried by the brackets to retain the arms in engagement with said latches.

7. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower latches, upper and lower brackets carried by the support and having means on which the latches are disengageably supported, latch retaining arms pivotally supported on the brackets with which the hinge members fulcrumly engage, means operatively connecting the arms of the upper and lower brackets for actuating said arms simultaneously to release the latch, and means carried by the brackets to retain the arms in engagement with said latches, said brackets also having means to retain the upper and lower arms swung laterally and out of engagement with the hinge members.

8. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower latches, upper and lower brackets carried by the support and having means on which the latches are disengageably supported, latch retaining arms pivotally supported on the brackets with which the hinge members fulcrumly engage, means operatively connecting the arms of the upper end and lower brackets for actuating said arms simultaneously to release the latches, and means to permit the latches to be adjusted to compensate for the sagging of the closure or the support.

9. In a hinge construction, a support, a closure, hinge members carried by the closure, upper and lower latches, upper and lower brackets carried by the support and having means on which the latches are disengageably supported, latch retaining arms pivotally supported on the brackets with which the hinge members fulcrumly engage, means operatively connecting the arms of the upper and lower brackets for actuating said arms simultaneously to release the latches, and means carried by the brackets to retain the arms in engagement with said latches, said brackets also having means to retain the upper and lower arms swung laterally and out of engagement with the hinge members, means for limiting the arms of the upper and lower brackets when in the act of moving vertically to disengage the hinge members.

10. A support, upper and lower brackets on the support and having flanges, and provided with pockets, arms mounted in said pockets, means operatively connecting the arms of the upper and lower brackets, for moving the corresponding arms of the upper

and lower brackets vertically and laterally, said means acting to fulcrumly support the arms, a closure, and latch members fulcrumly resting upon the flanges and fulcrumly engaging the arms, whereby said closure may be detachably and hingedly swung on the support.

11. A support, upper and lower brackets on the support and having flanges, and provided with pockets, arms mounted in said pockets, means operatively connecting the arms of the upper and lower brackets, for moving the corresponding arms of the upper

and lower brackets vertically and laterally, said means acting to fulcrumly support the arms, a closure, and latch members fulcrumly resting upon the flanges and fulcrumly engaging the arms, whereby said closure may be detachably and hingedly swung on the support, means for adjustably connecting the latch members to the closure to compensate for sagging of the closure or the support.

In testimony whereof I hereunto affix my signature.

CYRUS REED.